Milwaukee Water Works

2020 Consumer Confidence Report

2020 Reporte de Confianza del Consumidor

The U.S. Environmental Protection Agency (EPA) and Wisconsin Department of Natural Resources (DNR) require drinking water utilities to provide an annual Consumer Confidence Report to help consumers understand where their drinking water comes from, so they can make informed decisions about their health and protection of the environment. In this report, you will find:

- Information about the source of your drinking water
- The treatment process that ensures the highest quality water
- Results of 2020 water quality testing and compliance with water quality regulations and standards
- 2020 Lead and Copper Rule results
- Additional educational information and public health announcements

Visit Milwaukee.gov/water for more information.

| Table of Contents | <u>Page</u> |
|----------------------------|-------------|
| MWW customers | 1 |
| Source water and treatment | 2 |
| Definitions | 3 |
| Water quality data | 4-6 |
| Lead and drinking water | 7 |
| Educational information | 8 |

Great Lakes Basin Boundary Lake Michigan Milwaukee MWW Retail Custo

Milwaukee Water Works

The City of Milwaukee-owned public utility provides safe drinking water to approximately 867,000 people in Milwaukee and across 16 communities:

Wholesale Customers: Brown Deer, Butler, Greendale, Menomonee Falls, Mequon, Milwaukee County Grounds, New Berlin, Shorewood, Thiensville, Wauwatosa, and West Allis.

Retail Customers: Greenfield, Hales Corners, a portion of Franklin, Milwaukee, St. Francis, and West Milwaukee.

Participate in decisions regarding your water

Attend City of Milwaukee Common Council Public Works Committee meetings, which occur regularly each month in Milwaukee City Hall, Room 301B, 200 East Wells Street, Milwaukee, WI 53202. You may also attend City of Milwaukee Common Council meetings, which meet in the Milwaukee City Hall, 3rd Floor Common Council Chambers, 200 East Wells Street, Milwaukee, WI 53202. Common Council meeting dates vary. Please contact the City Clerk for the schedule at (414)286-2221, or visit Milwaukee.gov/cityclerk/ PublicRecords/Agendas.htm.

Important Information

This report contains important information about your drinking water. Translate it, or speak with someone who Tradúzcalo o hable con alguien que lo understands it.

Información Importante

Este informe contiene información muy importante sobre su agua de beber. entienda bien.

Lug tseem ceeb rua cov siv dlej kws has lug Moob

Ntawm nuav yog cov lug tseem ceeb gha txug kev haus dlej nyob nroog Milwaukee. Yog mej nyeem tsi tau cov lug nuav, thov lwm tug txhais rua mej.



Braille

This material is available in alternative formats for individuals with disabilities upon request. Please contact the City of Milwaukee ADA Coordinator via phone at (414) 286-3475 or email ADACoordinator@milwaukee.gov. Please provide a 72-hour advance notice for large print and seven days for Braille documents.

Large Print

Milwaukee's Source Water Comes from Lake Michigan

Milwaukee's drinking water comes from Lake Michigan, a surface water source. The most recent DNR Source Water Assessment for Milwaukee is available online under "Resources" at Milwaukee.gov/water/WaterQuality. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants, or substances, that may be present in source water include:

- Microbial contaminants, such as viruses, protozoa, and bacteria, may come from leaky sewer pipes, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also come from gas stations, urban stormwater runoff, and

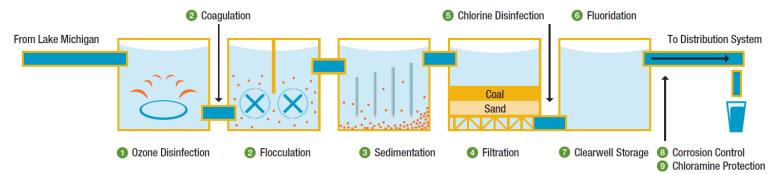
- septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's safe drinking water hotline (800-426-4791) or at:

epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

In order to ensure that tap water is safe, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Milwaukee Water Works maintains a nationally recognized water monitoring program to assure all treated water meets or exceeds local, state, and federal regulations. In 2020, the American Water Works Association (AWWA) awarded the MWW Water Quality Section with the Utility Achievement Award for Ongoing Excellence in Water Quality through Laboratory Accreditation.

Milwaukee Water Works Drinking Water Treatment Process



- (1) **Ozone disinfection**: Ozone gas is bubbled through the incoming lake water. Ozone destroys disease-causing microorganisms including *Giardia* and *Cryptosporidium*, controls taste and odor, and reduces the formation of chlorinated disinfection byproducts.
- (2) Coagulation and Flocculation: Aluminum sulfate is added to the water to neutralize the charge on microscopic particles. The water is then gently mixed to encourage suspended particles to stick together to form "floc."
- (3) **Sedimentation**: Sedimentation is the process in which floc settles out and is removed from the water.
- (4) **Biologically Active Filtration**: The water is slowly filtered through 24" of anthracite coal and 12" of crushed sand to remove very small particles.
- (5) **Chlorine Disinfection**: After filtration, chlorine is added as a secondary disinfectant to provide extra protection from potentially harmful microorganisms.
- (6) **Fluoridation**: Fluoride, when administered at low levels, is proven to help prevent tooth decay.

- (7) **Clearwell Storage**: Treated water is stored in deep underground tanks and pumped as needed through the distribution system.
- (8) **Corrosion Control**: A phosphorus compound is added to help control corrosion of pipes. This helps prevent lead and copper from leaching from plumbing into water.
- (9) **Chloramine Protection**: Ammonia changes the chlorine to chloramine, a disinfectant that maintains bacteriological protection in the distribution system.

Reading the Water Quality Tables

The following tables show regulated and unregulated contaminants, or substances, detected in Milwaukee's drinking water in 2020. It also includes all substances tested for in the mandatory EPA monitoring program, most recently the Fourth Unregulated Contaminant Monitoring Rule (UCMR-4). All contaminants detected continue to meet or exceed local, state, and federal drinking water standards for health and safety. The tables contain the name of each substance, the highest level allowed by regulation (maximum contaminant level, MCL), the ideal goals for public health (MCLG), the amount detected, and the usual sources of such contamination. The presence of a substance in drinking water does not necessarily indicate the water poses a health risk. Certain quantities of some substances are essential for good health, but excessive quantities can be hazardous.

| Definitions | |
|--|---|
| Action Level (AL) | The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow. Action levels are reported at the 90th percentile for homes at greatest risk. |
| Health Advisory (HA) | An estimate of acceptable drinking water levels for a chemical substance based on health effects information; a health advisory is not a legally enforceable federal standard, but serves as technical guidance to assist federal, state, and local officials. |
| Maximum contaminant level (MCL) | The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. |
| Maximum contaminant level goal (MCLG) | The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. |
| Maximum residual disinfectant level (MRDL) | The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants. |
| Maximum residual disinfectant level goal (MRDLG) | The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination. |
| Treatment technique (TT) | A required process intended to reduce the level of a contaminant in drinking water. |
| Turbidity | Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms may include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. |

| Unit abbreviations | |
|-----------------------|---|
| < | "less than" or not detected |
| -log[H ⁺] | pH measurements are expressed as the negative base 10 logarithm of the hydrogen ion concentration |
| NA | not applicable |
| NR | not regulated |
| NTU | nephelometric turbidity unit (a unit to measure turbidity) |
| ppb | parts per billion (microgram per liter) |
| ppm | parts per million (milligram per liter) |
| ppq | parts per quadrillion (picograms per liter) |
| ppt | parts per trillion (nanogram per liter) |
| pCi/L | picocuries per liter: a measure of radioactivity |
| RAA | running annual average: the average of four quarterly samples collected in one year |

Primary and Secondary Drinking Water Standards

The EPA has National Primary Drinking Water Regulations that set water quality standards for contaminants, or substances, in public drinking water. These standards are referred to as maximum contaminant levels (MCLs), which are established to protect public health, and are legally enforceable above the allowed MCL. The EPA has also established National Secondary Drinking Water Regulations that set non-mandatory standards for potential water-quality substances. These secondary substances are not currently considered a risk to human health, but instead, act as guidelines for drinking water aesthetics such as taste, odor, and color.

Monitoring for Cryptosporidium and Other Contaminants

Milwaukee Water Works maintains an extensive, nationally recognized water quality monitoring program. The utility tests for approximately 500 substances to ensure safe water, increase understanding of how substances affect public health, and meet future regulations. Below are unregulated substances that were detected in treated water in 2020. A full list of undetected substances can be found under "Resources" at Milwaukee.gov/water/WaterQuality. *Cryptosporidium* was not detected in any of the source water or finished drinking water samples collected in 2020. Additionally, no *Giardia*, Reovirus, or Enterovirus were detected in MWW drinking water in 2020.

| Primary Substances Detected | Ideal Goal (MCLG) | Highest Level Allowed (MCL) | Average | Range | Meets Standard | Typical Source of Substance |
|---|-------------------------|--------------------------------------|---------|-----------------------|-------------------|---|
| Antimony (ppb) | 6 | 6 | 0.2 | 0.2 | Yes | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder |
| Atrazine (ppb) | 3 | 3 | 0.03 | < 0.01 - 0.08 | Yes | Herbicide |
| Barium (ppm) | 2 | 2 | 0.019 | 0.019 | Yes | Drilling waste discharge; metal refineries |
| Bromate (ppb) | 0 | 10 RAA | 4.0 | < 1.5 - 5.0 | Yes | By-product of drinking water disinfection |
| Chlorine, Total (ppm) | 4 | 4 (MRDL) | 1.53 | 1.01 - 1.86 | Yes | Water additive used to control microbes |
| Chlorite (ppm) | 0.8 | 1 | 0.003 | 0.0007 - 0.005 | Yes | By-product of drinking water disinfection |
| Chromium, Total (ppb) | 100 | 100 | 0.9 | 0.8 - 0.9 | Yes | Natural deposits and manufacturing |
| Fluoride (ppm) | 4.0 | 4.0 | 0.66 | 0.27 - 0.79 | Yes | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Haloacetic Acids [HAA5] (ppb) | NA | 60 | 2.1 | 1.0 - 3.3 | Yes | Byproduct of drinking water disinfection |
| Heterotrophic plate count | NA | тт | Met | Met standard | Yes | Naturally present in the environment; |
| Nitrate, as N (ppm) | 10 | 10 | 0.35 | 0.32 - 0.37 | Yes | Runoff from fertilizer use; leeching from septic tanks sewage; erosion of natural deposits |
| Radionuclides | | | | | | |
| Gross alpha (pCi/L) [excluding Ra and U] | 0 | 15 | 0.7 | 0.5 - 0.7 | Yes | Erosion of natural deposits |
| Gross alpha (pCi/L) | 0 | 15 | 0.9 | 0.7 - 0.9 | Yes | Erosion of natural deposits |
| Gross beta (pCi/L) | 0 | 50 | 1.6 | -1.7 - 1.6 | Yes | Decay of natural and manmade deposits |
| Radium (pCi/L) | 0 | 5 | 0.9 | 0.7 - 0.9 | Yes | Erosion of natural deposits |
| Uranium (ppb) | 0 | 30 | 0.3 | 0.3 | Yes | Erosion of natural deposits |
| Total Trihalomethanes [TTHM] | NA | 80 | 8.5 | 1.5 - 12.3 | Yes | Byproduct of drinking water disinfection |
| Turbidity (NTU) | NA | < 0.300 95% of time | 0.01 | 0.16 1-day maximum | Yes | Soil runoff |

Secondary and other substances detected

| Secondary Substances Detected | Highest Level Allowed | Average | Range | Meets Standard | Typical Source of Substance |
|-------------------------------|--------------------------|---------|---------------|-------------------|--|
| Aluminum (ppm) | 0.05-0.20 | 0.013 | 0.005 - 0.021 | Yes | Water treatment additive; natural deposits |
| Chloride (ppm) | 250 | 15.5 | 14.3 - 21.1 | Yes | Natural deposits and road salts |
| Odor | 3 | 1 | 1 | Yes | Naturally present in the environment |
| pH (-log [H ⁺]) | 6.5 - 8.5 | 7.63 | 7.40 - 7.89 | Yes | Naturally present in the environment |
| Sulfate (ppm) | 250 | 27.9 | 25.5 - 32.5 | Yes | Natural deposits |
| Total Dissolved Solids (ppm) | 500 | 177 | 161 - 201 | Yes | Aggregate of dissolved minerals |

| Other Substances Detected | Range of Results | Typical Source of Substance |
|--|------------------|--|
| Acesulfame-K (ppb) | 0.04 - 0.05 | Artificial sweetener |
| Ammonia, as N (ppm) | 0.14 - 0.47 | Disinfection with chloramines; wastes; fertilizers and natural processes |
| Boron (ppb) | 22 | Naturally occurring; borax mining and refining; boric acid manufacturing |
| Bromide (ppb) | 14 - 29 | Naturally occurring |
| Bromochloroacetonitrile (ppb) | < 0.3 - 1.1 | Byproduct of drinking water disinfection |
| Calcium (ppm) | 34 | Naturally occurring |
| Chlorate (ppm) | 0.32 | Byproduct of drinking water disinfection |
| Chloropicrin (ppb) | < 0.3 - 1.0 | Fungicide, herbicide, insecticide and nematicide |
| Chromium, hexavalent (ppb) | 0.14 - 0.20 | Natural deposits and manufacturing |
| Cotinine (ppt) | 1 | Metabolic byproduct of tobacco smoking |
| Deethylatrazine | < 0.01 - 0.02 | Herbicide |
| Dibromoacetonitrile (ppb) | 0.2 - 0.6 | Byproduct of drinking water disinfection |
| Lithium (ppb) | 2.1 | Naturally occurring |
| Magnesium (ppm) | 12 | Naturally occurring |
| Nickel (ppb) | 0.5 - 0.6 | Natural deposits and manufacturing |
| N-Nitrosodiethylamine [NDEA] (ppt) | < 2.0 - 4.1 | Disinfection with chloramines; cured meats; pesticides |
| N-Nitrosodi-N-butylamine [NDBA] (ppt) | < 2.0 - 2.2 | Disinfection with chloramines; cured meats; pesticides |
| Perfluorooctane sulfonate [PFOS] (ppt) | < 2.0 - 2.3 | Waterproofing; textile manufacturing; used in fire fighting foams |
| o-Phosphate as PO ₄ (ppm) | 0.59 - 3.27 | Byproduct of drinking water treatment |
| Phosphorus as P (ppm) | 0.53 - 0.81 | Naturally occurring |
| Potassium (ppm) | 1.4 | Naturally occurring |
| Rubidium (ppb) | 1.1 | Naturally occurring |
| Silica (ppm) | 2.0 - 2.6 | Naturally occurring |
| Sodium (ppm) | 9.6 - 9.7 | Natural deposits and road salt |
| Strontium (ppb) | 110 | Natural deposits |
| Sucralose (ppt) | < 25 - 33 | Artificial sweetener |
| Total Organic Carbon (ppm) | 1.25 - 1.74 | Naturally present in the environment |
| Total Solids (ppm) | 140 - 160 | Measure of solid materials in water |
| 1,1,1-Trichloropropanone (ppb) | 0.3 - 0.9 | Byproduct of drinking water disinfection |
| Tris(chloropropyl) phosphate (ppb) | 0.01 | Flame retardant |

Fourth Unregulated Contaminants Monitoring Rule (UCMR-4)(2018)

HAA9 Total (ppb)

The Unregulated Contaminant Monitoring Rule (UCMR) was established by the EPA as part of the Safe Drinking Water Act Amendments of 1996. Every five years, in compliance with the EPA, Milwaukee Water Works collects data on potential contaminants that are not yet regulated but are known, or anticipated, to occur in public water systems. These data help the EPA determine if future regulations are needed for contaminants of concern.

| EPA determine if future regulations are needed for contaminants of concern. | | | | | | |
|---|--|---|--|--|--|--|
| UCMR-4 Assessment Monitoring (2018) | Average | Highest Detected | Typical source of substance | | | |
| alpha-Hexachlorocyclohexane (ppt) | < 0.0100 | < 0.0100 | Pesticide | | | |
| 1-Butanol (ppb) | < 2.00 | < 2.00 | Solvent, food additive | | | |
| Butylated hydroxyanisole (ppt) | < 0.300 | < 0.300 | Food additive (antioxidant) | | | |
| Chlorpyrifos (ppt) | < 0.0300 | < 0.0300 | Organophosphate, insecticide, acaricide, miticide | | | |
| Dimethipin (ppt) | < 0.200 | < 0.200 | Herbicide and plant growth regulator | | | |
| Ethoprop (ppt) | < 0.030 | < 0.030 | Insecticide | | | |
| Germanium (ppt) | < 0.300 | < 0.300 | Naturally occurring element | | | |
| Manganese (ppt) | 0.423 | 0.520 | Naturally occurring element | | | |
| 2-Methoxyethanol (ppt) | < 0.400 | < 0.400 | Synthetic cosmetics, perfumes, fragrances, hair preparations, skin lotions | | | |
| o-Toluidine (ppq) | < 7.00 | < 7.00 | Dyes, rubber, pharmaceuticals, pesticide | | | |
| Oxyfluorfen (ppt) | < 0.500 | < 0.500 | Herbicide | | | |
| Permethrin cis & trans (ppt) | < 0.040 | < 0.040 | Insecticide | | | |
| Profenofos (ppt) | < 0.300 | < 0.300 | Insecticide and acaricide | | | |
| 2-Propen-1-ol (ppt) | < 0.500 | < 0.500 | Flavorings, perfumes | | | |
| Quinoline (ppt) | < 0.020 | < 0.020 | Anti-malarial pharmaceutical, flavoring agent | | | |
| Tebuconazole (ppt) | < 0.200 | < 0.200 | Fungicide | | | |
| Tribufos (ppt) | < 0.070 | < 0.070 | Insecticide, cotton defoliant | | | |
| UCMR-4 Assessment Monitoring of Cyanotoxins (2018) | Average | Highest Detected | Typical source of substance | | | |
| Anatoxin-a (ppt) | < 30 | < 30 | Source water | | | |
| Cylindrospermopsin (ppt) | < 90 | < 90 | Source water | | | |
| Total Microcystins & Nodularins (ppb) | < 0.300 | < 0.300 | Source water | | | |
| UCMR-4 Assessment Monitoring of Surface Water Indicators (2018) | Average | Highest Detected | Typical source of substance | | | |
| Bromide (ppb) | 30.3 | 35.3 | Source water | | | |
| Total Organic Carbon [TOC] (ppm) | | | | | | |
| | 1.840 | 2.040 | Source water | | | |
| UCMR-4 Assessment Monitoring of Distribution Water (2018) | 1.840 Average | 2.040 Highest Detected | Source water Typical source of substance | | | |
| Distribution Water (2018) | | Highest | Typical source of substance | | | |
| | Average | Highest Detected | | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) | Average 0.895 | Highest Detected 1.180 | Typical source of substance Byproduct of drinking water disinfection Byproduct of drinking water disinfection | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) Chlorodibromoacetic acid [CDBAA] (ppb) | Average 0.895 0.750 0.413 | Highest Detected 1.180 1.090 0.524 | Typical source of substance Byproduct of drinking water disinfection Byproduct of drinking water disinfection Byproduct of drinking water disinfection | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) | Average 0.895 0.750 | Highest Detected 1.180 1.090 | Typical source of substance Byproduct of drinking water disinfection Byproduct of drinking water disinfection | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) Chlorodibromoacetic acid [CDBAA] (ppb) Dibromoacetic acid [DBAA] (ppb) | 0.895 0.750 0.413 0.379 | Highest Detected 1.180 1.090 0.524 0.504 | Typical source of substance Byproduct of drinking water disinfection | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) Chlorodibromoacetic acid [CDBAA] (ppb) Dibromoacetic acid [DBAA] (ppb) Dichloroacetic acid [DCAA] (ppb) Monobromoacetic acid [MBAA] (ppb) | 0.895 0.750 0.413 0.379 1.473 | Highest Detected 1.180 1.090 0.524 0.504 2.020 | Typical source of substance Byproduct of drinking water disinfection | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) Chlorodibromoacetic acid [CDBAA] (ppb) Dibromoacetic acid [DBAA] (ppb) Dichloroacetic acid [DCAA] (ppb) Monobromoacetic acid [MBAA] (ppb) Monochloroacetic acid [MCAA] (ppb) | 0.895 0.750 0.413 0.379 1.473 < 0.300 < 2.00 | Highest Detected 1.180 1.090 0.524 0.504 2.020 < 0.300 < 2.00 | Typical source of substance Byproduct of drinking water disinfection | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) Chlorodibromoacetic acid [CDBAA] (ppb) Dibromoacetic acid [DBAA] (ppb) Dichloroacetic acid [DCAA] (ppb) Monobromoacetic acid [MBAA] (ppb) Monochloroacetic acid [MCAA] (ppb) Tribromoacetic acid [TBAA] (ppb) | 0.895 0.750 0.413 0.379 1.473 < 0.300 | Highest Detected 1.180 1.090 0.524 0.504 2.020 < 0.300 | Typical source of substance Byproduct of drinking water disinfection | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) Chlorodibromoacetic acid [CDBAA] (ppb) Dibromoacetic acid [DBAA] (ppb) Dichloroacetic acid [DCAA] (ppb) Monobromoacetic acid [MBAA] (ppb) Monochloroacetic acid [MCAA] (ppb) Tribromoacetic acid [TBAA] (ppb) Trichloroacetic acid [TCAA] (ppb) | 0.895 0.750 0.413 0.379 1.473 < 0.300 < 2.00 | Highest Detected 1.180 1.090 0.524 0.504 2.020 < 0.300 < 2.00 < 2.00 | Typical source of substance Byproduct of drinking water disinfection | | | |
| Distribution Water (2018) Bromochloroacetic acid [BCAA] (ppb) Bromodichloroacetic acid [BDCAA] (ppb) Chlorodibromoacetic acid [CDBAA] (ppb) Dibromoacetic acid [DBAA] (ppb) Dichloroacetic acid [DCAA] (ppb) Monobromoacetic acid [MBAA] (ppb) Monochloroacetic acid [MCAA] (ppb) Tribromoacetic acid [TBAA] (ppb) | Average 0.895 0.750 0.413 0.379 1.473 < 0.300 < 2.00 < 2.00 0.757 | Highest Detected 1.180 1.090 0.524 0.504 2.020 < 0.300 < 2.00 < 2.00 1.260 | Typical source of substance Byproduct of drinking water disinfection | | | |

5.951

Byproduct of drinking water disinfection

4.483

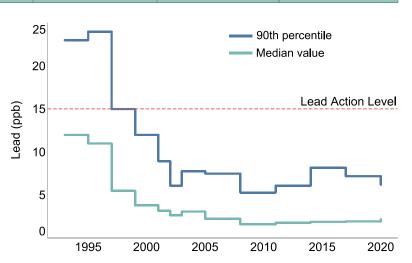
Lead and Copper Rule (2020)

In 2020, in compliance with the US EPA and Wisconsin DNR, Milwaukee Water Works completed Lead and Copper Rule (LCR) testing. In order to remain in compliance with EPA regulations, 90th percentile levels must be below 15 ppb for lead and 1300 ppb for copper.

| Lead and Copper (2020) | Action Level | 90th percentile | Highest Detected | Sites Exceeding Action Level |
|------------------------|--------------|-----------------|---------------------|------------------------------|
| Copper (ppb) | 1300 | 50.0 | 250 | 0 |
| Lead (ppb) | 15.0 | 6.2 | 130 | 2 |

Lead reduction

Since 1996, the Milwaukee Water Works has added orthophosphate to its finished water to reduce lead and copper from dissolving into the water. This is called corrosion control treatment (CCT). Lead in drinking water has been drastically reduced by as much as 60% since the implementation of CCT (see right figure). In 2002, the DNR considered the MWW CCT to be optimized, meaning the water quality characteristics were ideal for reducing lead in water. In 2019, the MWW began a three-year study to evaluate its CCT program and determine if improvements could be made. A full report will be available in 2022.



Lead and Copper Public Safety

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Milwaukee Water Works is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for three minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the EPA at EPA.gov/safewater/lead.

Guidelines regarding lead

- Occupants of buildings where lead service lines are present should adequately flush water lines after prolonged periods of stagnation to reduce potential lead hazards, but the use of NSF/ANSI Standard 53 certified lead filters is the most thorough means of lead-water safety.
- At-risk populations of women and children living in buildings where lead service lines are present, including women who
 are pregnant, may become pregnant (woman ages 15-45) or are breastfeeding, and children up to the age of 6, should
 drink and cook only with water that has been filtered with an NSF/ANSI Standard 53 lead certified filter.
- If using water directly from the faucet (without a filter), only cold water that has been well-flushed for a
 minimum of three minutes should be used. Not running your water for the recommended length of time may
 increase your risk of lead exposure.
- To learn more, visit MWW Lead and Water at <u>Milwaukee.gov/water/WaterQuality/LeadAndWater</u>.



Other Compliance

Deficiency description: Milwaukee Water Works was notified of the following deficiency on August 6, 2019, "System is not implementing a comprehensive Cross-Connection Control Program," with a scheduled correction date of March 31, 2020.

Actions taken: The Milwaukee Water Works developed a Cross-Connection Control Plan to meet the March 31, 2020 deadline. A cross-connection is any actual or potential physical connection between a drinking water system and a source or system of non-drinkable water or substances. An example is a hose connected to a laundry tub faucet that is submerged in a sink below filled with soapy water. This plan is the result of a two-year redesign of the utility's Cross-Connection Control Program. The program will bring MWW into compliance with NR 810.15 by December 31, 2021 per WDNR order.

Other Educational Information

Cryptosporidium

Cryptosporidium is a microscopic protozoan that, when ingested, can result in diarrhea, fever, and other gastrointestinal symptoms. The Milwaukee Water Works and Milwaukee Health Department consider Cryptosporidium detection a priority, and since 1993, have continued to test Lake Michigan source water and treated water for Cryptosporidium.

Cryptosporidium is found in many surface water sources (lakes, rivers, streams) and comes from human and animal wastes in the watershed. The risk of *Cryptosporidium* infection from drinking water has been reduced to extremely

low levels by an effective treatment combination (see page 2), which places Milwaukee Water Works in the Bin 1 classification (lowest risk) for Cryptosporidium treatment requirements set by the DNR.

The Milwaukee Water Works provides a brochure based on EPA and CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*. Obtain a copy from our Customer Service Center, (414) 286-2830, or at

<u>Milwaukee.gov/water/WaterQuality</u> and scroll down to Resource Links, choose "Information for persons with weakened immune systems."

Information for Those with Compromised Immune Systems and/or Vulnerable Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available at CDC.gov/parasites/crypto/audience-immune-compromised.html and at CDC.gov/parasites and from the EPA's safe drinking water hotline at 1-800-426-4791.

Notice to Parents of Infants Six Months of Age or Younger

According to the CDC, the proper amount of fluoride, from infancy and at all ages throughout life, helps prevent and control tooth decay (cavities). Therefore, the Milwaukee Water Works, following public health recommendations, maintains a level of fluoride in our drinking water that is both safe and effective. The following is an advisory regarding fluoride and young infants:

The American Academy of Pediatrics recommends exclusive breastfeeding for the first six months of a child's life, followed by continued breastfeeding as complementary foods are introduced, for optimal short— and long-term health advantages. For more information, visit:

pediatrics.aappublications.org/content/129/3/e827.

As of August 31, 2012, Milwaukee water is fluoridated at a

level not to exceed 0.7 mg/L. According to the CDC, for infants up to six months of age, if tap water is fluoridated or has substantial natural fluoride (0.7 mg/L or higher) and is being used to dilute infant formula, a parent may consider using a low-fluoride alternative water source. Bottled water known to be low in fluoride is labeled as purified, deionized, demineralized, distilled, or prepared by reverse osmosis. Ready-to-feed (no-mix) infant formula typically has little fluoride and may be preferable at least some of the time. If breastfeeding is not possible, parents should consult a pediatrician about an appropriate infant formula option. Parents should be aware that there may be an increased chance of mild dental fluorosis if the child is exclusively consuming infant formula reconstituted with fluoridated water. Dental fluorosis is a term that covers a range of visible changes to the enamel surface of the tooth. For more information on dental fluorosis and the use of fluoridated drinking water in infant formula, go to CDC.gov/fluoridation.

Contact Us

Milwaukee Water Works Customer Service Center Zeidler Municipal Building 841 N. Broadway, Room 406 Milwaukee, WI 53202 Open M-F, 7:30 a.m. to 5:00 p.m.

Phone: (414) 286-2830 TDD: (414) 286-8801 Fax: (414) 286-5452

24-hour Water Control Center: (414) 286-3710

For non-emergency contact: watwebcs@milwaukee.gov Milwaukee.gov/water

Para una explicación en Español, por favor llame al: (414) 286-2830.